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18 January 1980

Worldwide Report

ENVIRONMENTAL QUALITY

No. 237



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USSR RESEARCH VESSEL, SCIENTIST JOIN INTERNATIONAL POLLUTION PROJECT

LD041435 Moscow PRAVDA in Russian 22 Nov 79 p 6 LD

[Report by A. Makarova: "How Is Your Health, Ocean?"]

[Text] Vladivostok--The scientific research vessel Academician Korolev left Nakhodka yesterday on its 26th voyage. It has joined the International Combined Marine Expedition, which aims to study the background characteristics of ocean and atmospheric pollution by various substances, both anthropogenic and natural.

Scientists from various countries are combining forces in order to solve this important and complex problem. Swedish experts are taking part in this expedition with Soviet scientists. This joint operation will be the final stage in research into the global biochemical cycle of sulfur in the environment. Here is what Doctor of Geographical Sciences G. V. Svinukhov, deputy director of scientific work at the Far Eastern Scientific Research Institute of Hydrometeorology (FESRIH), has to say about the expedition program:

The site chosen for the work is as far as possible from industrial regions, but some pollutants are characteristically global in distribution. Data obtained in the course of the expedition on water and air pollution will therefore subsequently serve as the basis of scientific forecasts of the dynamics of their accumulation and impact on the environment.

Another of the researchers' tasks is to study the flow and distribution of substances capable of altering the earth's radiation characteristics and in so doing affect the planet's climate. Thus it is well known that in recent decades a significant increase has been observed in the level of carbon dioxide in the atmosphere, which traps long-wave radiation leaving the surface of the earth. How the gas is transferred from the atmosphere to the ocean and how much of it is transferred has still not yet been definitely established.

Another example of a possible effect on the climate is the buildup in the atmosphere of widely-used industrial freons which as a result of photochemical reactions can effect the earth's ozone layer, a reduction of which can, after all, lead to an increase in the flow of short-wave radiation from space to the earth's surface. This shows clearly how important it is to study the flow of carbon dioxide across the "atmosphere-ocean" interface and the dynamics of freon buildup in the atmosphere.

A comprehensive maritime rocket experiment will also be conducted in the waters of the Indian and the Pacific oceans. Another four Soviet scientific-research vessels

will also be taking part in it apart from the Academician Korolev. They will all be making coordinated soundings of the upper layers of the atmosphere using meteorological rockets. This is important mainly to create empirical models of the atmosphere up to altitudes of 80-100 kilometers. The fact is that until now meteorologists have not known enough about the physics of stratospheric processes, their interaction and their impact on processes in the troposphere. The rocket experiment will thus help us to take a step forward in formulating long-term and ultra long-term weather forecasts.

In addition, all the vessels will have teams of synoptic meteorologists, meteorologists, hydrologists and chemical hydrologists aboard. Their job is to gather and process aerosynoptic data, compile up-to-the-minute weather forecasts for the route and monitor a whole range of hydrometeorological factors in the atmosphere and the ocean. It is planned to actually process this data on board with the help of a computer and to convey it to the USSR Hydrometeorological Center and the PESRIH.

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FEDERAL POLICY ON ENVIRONMENTAL LEGISLATION QUESTIONED

Plans To Restrict Legislation

Melbourne THE AGE in English 22 Oct 79 p 3

[Report from Tony Walker and Simon Balderstone]

[Text] Canberra.--The Federal Government plans severe restrictions to its environmental impact legislation to make it easier for development projects to go ahead.

The Environment Minister, Senator Wevster, supports the proposed changes, but has admitted they counter Liberal-National Party policy.

Confidential documents obtained by 'The Age' show at least five Government departments have been actively seeking to water down the Environment Protection Act.

These departments include National Development, Finance, Trade and Resources, and Treasury.

Most pressure for restrictions on the scope of the Act has come from the Treasurer, Mr. Howard, and the Department of Trade and Resources.

The departments want to reduce Commonwealth responsibility for environmental impact studies.

In a letter to the then Minister for the Environment, Mr. Groom, late last year, Mr. Howard said "primary responsibility" for environmental protection should rest with the States unless the Commonwealth is directly involved.

"Should this approach be acceptable to you and to our colleagues, I believe it would follow that my responsibilities, encompassing general economic and natural policies, foreign investment and exchange control, should be exempted completely from the application of the Environment Protection Act," the letter said.

The Federal Government is now reviewing the Act and will announce its decision soon.

The present legislation -- introduced by the Whitlam Government in 1974 -- sets strict environmental and economic conditions on new projects.

Contrary

In June this year, Senator Webster said in a memorandum: "Alteration to the Act which severely curtails its ambit will be contrary to these commitments" (Liberal Country party commitments on environmental impact decisions).

This says all development projects "which are likely to have a significant and/or damaging effect on the environment and involving the Commonwealth, that environment impact statements are prepared prior to decisions having been made."

Senator Webster also proposed that as Environment Minister he should be given added authority to approve new projects without resort to environmental impact statements.

Environmental impact statements for major projects are virtually mandatory under the present legislation.

The 22-page Webster memorandum of June 11 also includes the recommendations of a Cabinet committee, suggesting that 28 categories should be excluded from impact legislation, including:

Declaration of marine parks and the Great Barrier Reef Marine Park Act;

Export approvals for new mining activities not considered to be a matter of national importance;

Declaration of National Parks under the National Parks and Wildlife Service Act.

The leaked documents also include strong criticism of the duration and cost of the Ranger inquiries, and suggest ways to speed up such inquiries.

Criticism by Opposition

Melbourne THE AGE in English 23 Oct 79 p 12

[Excerpt]

Yesterday the Opposition spokesman for the environment, Mr. Cohen, called on the Government to stop the "backroom bargaining" with Australia's heritage.

"The Cabinet would like to virtually destroy the spirit of the Act by excluding a large number of categories from the jurisdiction of the legislation and hand remaining responsibility over to States."

Mr. Cohen said the Treasury had refused to supply a House of Representatives standing committee on the environment with any information concerning the Protection Act.

The parliamentary leader of the Australian Democrats, Senator Chipp, said the Australian people would not support Government

suggestions that the requirements for environmental impact statements be watered down.

Dr. J. G. Mosley, director of the Australian Conservation Foundation said the documents revealed that the Government was not serious about implementing its environmental protection policy and had treated with disdain the parliamentary inquiry into the environment.

He said the legislation was being "undermined, abused and evaded," by the Government.

The Friends of the Earth organisation said the moves contradicted the Government's public statements that its stance on the environment would withstand any scrutiny.

'Vendetta' Against Legislation

Melbourne THE AGE in English 25 Oct 79 p 13

[Text]

The environment would be the loser under possible Federal Government plans to hand environmental responsibility to the States, it was claimed yesterday.

The Opposition spokesman on the Environment, Mr. Cohen, told Parliament this became clear in recent days with newspaper reports that earlier fears on the future of Commonwealth environment legislation were correct.

"The Trade and Resources Minister, Doug Anthony, is leading a Cabinet vendetta against environment protection legislation," Mr. Cohen said.

"Together with his hatchetman, Treasurer John Howard, he has been proposing to amend the Commonwealth legislation in order to exempt such major items as foreign investment from scrutiny of the act and to hand over all responsibility for environment protection to the States, except for those relating to Commonwealth projects."

Mr. Cohen said that only Victoria had comprehensive legislation although New South Wales and South Australia were in the process of drafting it.

He said the Opposition did not believe every project should come under Commonwealth scrutiny, but there was

a need to examine those where the national interest was affected.

Mr. Baillieu (Lib., Vic.) said "Government has not stated its intention to absolve itself from the area of environmental protection."

"This Government's record is second to none in the area of environmental protection," he said.

The Opposition appeared to be saying that no matter what happened in the States there would have to be a Commonwealth environmental impact study," he said.

The Opposition appeared to be advocating the study be even carried out on the Federal Budget.

"Why should people wanting to invest large sums of money be put to the trouble of first having to report first to the Commonwealth, and then to the States, or vice versa," Mr. Baillieu said.

"Everybody knows these procedures have been used in the past."

"Everyone knows what a devastating effect it had on investment in this country," he said.

The debate lapsed.

Government Review Defended

Brisbane THE COURIER-MAIL in English 30 Oct 79 p 10

[Text] Canberra.—The Federal Government was reviewing environment protection legislation to improve its effectiveness, the Science Minister (Senator Webster) said yesterday.

Senator Webster said a major part of the review had been to eliminate duplication and overlap between Federal and State environmental activities.

"To this end, effective working arrangements have been made by the Government for co-operation with the States," he said.

The Minister, opening a conference in Canberra on air pollution, was replying to criticism of the Government's review of the Environment Protection (Impact of Proposals) Act.

Conservation bodies have claimed that the review is aimed at watering down the Act, while the Labor Opposition has accused the Government of trying to hand over its environmental responsibilities to the States.

Senator Webster said the Government was aware of the Act's importance.

"All governments are constantly reviewing and, where necessary, altering existing legislation to ensure it remains appropriate to the current situation," he said.

"The Environment Protection (Impact of Proposals) Act is no exception."

The Government announced its intention to review the legislation in June, 1977.

Senator Webster said the review had been delayed to take account of

the report by the House of Representatives Standing Committee on Environment and Conservation following its inquiry into the legislation.

The report was tabled in the Parliament on October 18.

"The committee's findings represent a major contribution to the review of the Act," the Minister said.

"The Government intends to consider fully the recommendations of the report before making any decision."

Senator Webster said the committee had endorsed the Government's stand that the legislation needed to be reviewed and that co-operation with the States was required for its effective administration.

"While the review continues, the Act of course is continuing to be applied in co-operation with the States to matters of environmental significance within the Commonwealth's area of responsibility," he said.

AUSTRALIA

GOVERNMENT STAND ON ENVIRONMENTAL LAWS 'DISTURBING'

Melbourne THE AGE in English 25 Oct 79 p 11

[Editorial: "Mining: Right To Veto"]

[Text]

REPORTS that the Federal Government intends weakening its environment laws, which might make it easier for potentially ruinous mining and industrial projects to proceed, are disturbing. The laws, introduced by the Labor Government in 1974, are unwieldy. Too many arms of Government are involved. But the Government's proposed answer to the administrative difficulties is ill-conceived. If it hands responsibility for the assessment of the likely environmental impact of large projects back to the States, it will surrender one of its most useful controls over the ambitions of some State Governments to attract investment at almost any cost. The laws contained in the Environment Protection (Impact of Proposals) Act ensure that projects are assessed for their impact on the environment before they proceed. If they do not pass the test, the Federal Government can withhold export licences or other forms of approval needed for the project to go ahead. The laws would not have been needed if all States could be trusted to conduct their own objective assessments. But in the most celebrated case where the laws were used to stop a mining venture, it was clear that the relevant State Government wanted the project to proceed because of the jobs it provided and was willing to overlook the obvious environmental dangers.

This project was the Fraser Island sand-mining scheme. The case is a worthy example of the value of the conservation laws. But it also highlights possibly one of the most important reasons for the Government's new attitude. The Whitlam Government gave DM Minerals a licence to export minerals extracted

from sand at Fraser Island, off the Queensland coast, in 1974. A short time later, the same Government introduced the environment laws which made any project to which Commonwealth decisions applied, like the issuing of an export licence, liable to an environment assessment. A committee of inquiry was appointed in 1975 to examine the Fraser Island project, and one year later it recommended that most mining on the island be stopped. It would cause major, permanent and irreversible damage to the landscape, vegetation and lakes of the island. The Fraser Government endorsed the recommendation and mining stopped on December 31, 1976.

That decision, criticised by the Queensland Government and elements of the National Party, has cost the Federal Government dearly. A grant of \$10 million was necessary to compensate the State Government for the loss of jobs. Another \$4 million was offered as compensation to DM Minerals. The offer was rejected. The company is still seeking \$23 million compensation and the dispute is likely to be referred to the International Court of Justice in The Hague. The Government, it is clear, has had its fingers burnt. It is also clear that if the Government proceeds with the plan to return the responsibility for most environmental assessments to the States, contentious projects like Fraser Island might stand a better chance of being approved in future. In fact, the Queensland Government has frequently indicated that it would like to see the Fraser Island venture revived. The same view has been expressed by the Minister for Trade and Resources, Mr. Anthony.

Five Federal departments, all of which contribute to decisions on large development projects, want the laws diluted. They include the Treasury and the departments of Finance, Trade and Resources, and National Development. It appears they no longer want to be bound by environmental considerations when deciding whether to approve new ventures, except in the sensitive cases of off-shore and uranium developments. If they have their way, State Governments will be asked to decide whether other projects meet environmental standards. The Federal Government would intervene only if a State decision was demonstrably unreasonable. The proposed changes take no account of the willingness of some States to place investment statistics ahead of long-term and aesthetic considerations. All development is not good. Sensitive natural areas are not replaceable. Export licences or other forms of Commonwealth approval that are vital to the success of new developments should only be granted if and when the Federal Government is satisfied with the environmental aspects of the project. It should not leave this important decision to a State Government. The administrative difficulties imposed by the laws might need to be corrected but, at the same time, the Federal Government's obligation to protect the nation's heritage must be maintained.

AUSTRALIA

SOUTH AUSTRALIA DROPS, NEW SOUTH WALES KEEPS ANTIPOLLUTION PLANS

NSW Alone in Stand

Sydney THE SYDNEY MORNING HERALD in English 1 Nov 79 p 3

[Report from David Robertson, Motoring Editor]

[Text] Adelaide.--South Australia dropped plans yesterday for tighter vehicle emission controls, leaving NSW the only State supporting the controversial change.

The Federal Government has been pressing both States to defer the controls--the third stage of Australian Design Rule 27a--on the grounds that the benefit in air quality was far outweighed by the loss in vehicle fuel economy.

The Premier of South Australia, Mr Tonkin, said his Government had "no intentions of forcing its adoption."

Cabinet had taken a firm decision not to proceed with stage three for at least two years.

Mr Tonkin said the previous Labor Government had backed adoption of stage three in spite of doubts by other State Governments.

The South Australian decision was warmly welcomed by the Federal Minister for Industry and Commerce, Mr Lynch.

Departing from his prepared text at the opening of Chrysler Australia's new four-cylinder engine factory in Adelaide yesterday, Mr Lynch said NSW was now the only State holding out for early introduction of the tighter rule.

The Federal Government would again approach the NSW Government to seek a

relaxation in its attitudes to the implementation of the third stage.

"Mr Wran should accept the judgment made by all the other States that Australia cannot now afford the costs of stage three" Mr Lynch said adding: "It is not in the national interest, the vehicle industry's interest or the car-buying public's."

Australia was faced with the "ridiculous possibility" of the car industry having to produce vehicles especially for NSW or loading the costs of meeting the new regulations on all vehicles produced in Australia.

"These costs would be considerable," Mr Lynch said. "Increased car prices would be significant. Consumption of our scarce liquid fuel resources would be higher."

But The NSW Minister for Planning and Environment, Mr Landa, said yesterday that the South Australian decision would not affect NSW.

"... Rest assured, I won't be wavering from my program and the industry had better accommodate the fact that there will be no further extension and in 1981 they will have to comply or they [the vehicles] won't get registered in NSW," he said.

He said emission control requirements in California were eight times more stringent than those for NSW.

Mr Tonkin said his Government had closely studied the application of the third-stage control as it related to current pollution in Adelaide and South Australia, and the effect it would have on the cost of vehicles.

"While taking into account the need for a close watch on our environment, it must not

overrule all other considerations."

He said development, particularly industrial development, must be given every encouragement, within certain environmental bounds.

The deputy chairman of Chrysler and immediate past president of the Federated Chamber of Automotive Industries, Mr Ian Webber, said it was unlikely that local manufacturers would build special cars for the NSW market if the NSW Government decided to go ahead with the new emission control.

But he warned that although local car makers could technically meet the new requirements, it would lead to higher car prices and a 5 per cent reduction in fuel economy.

Sydney Air Pollution a Danger

Sydney THE SYDNEY MORNING HERALD in English 2 Nov 79 p 2

[Report from Environment Writer, Joseph Glascott]

[Text]

Peak levels of carbon monoxide in the Sydney city centre have been high enough to cause restriction of blood to the heart and even heart attacks, according to a report on the health effects of air pollution.

Carbon monoxide levels were a danger to people suffering from heart diseases, the report says.

However, Sydney's main air pollution problem comes from nitrogen oxides, hydrocarbons and photochemical smog, which cause increased rates of lung infections, produce throat and eye irritation and predispose victims to chronic bronchitis, it concludes.

The report, issued yesterday, was prepared by Dr Mark Harris, a Sydney pediatrician and environmental health worker, for the Environmental

Health Group of the Inner-Sydney Regional Council for Social Development.

The council was formed under the Australian Assistance Plan of the former Federal Labor Government and is now financed by the State Government.

The council, a co-operative of resident action groups and community organisations, studies social problems in the central city, South Sydney, Botany and Leichhardt Municipalities.

Dr Harris said yesterday his report was not his original research, but brought together existing findings and reports on air pollution.

In his conclusions he says there is evidence that certain polycyclic hydrocarbons, such as benzpyrene and benzene, released from cars and industry, are associated with an increased incidence of various cancers,

notably lung cancer, leukaemias and lymphomas.

However, he says there are no records of the levels of these air pollutants in Sydney.

The report says that State Pollution Control Commission studies show that carbon monoxide levels in the City centre exceeded World Health Organisation long-term goals for up to 265 days in 1977.

Ozone, an indicator of photochemical smog, exceeded WHO goals for about half the days of the year in 1977. Average levels were highest in the south-west of Sydney.

"A number of studies have demonstrated increased mortality in groups exposed to air pollution, allowing for socio-economic factors," the report says.

"Childhood mortality, especially in infants, broncho-pneumonia and respiratory disease

have been correlated with air pollution levels after allowing for socio-economic factors."

A large number of epidemiological reports compared the prevalence of chronic bronchitis and chronic respiratory disease mortality with the amount of fuel consumed in a community, the levels of sulphur dioxide and the levels of settled and airborne dust.

An arrest of the incidence and even a decline in the morbidity and mortality rates for bronchitis-emphysema in the UK had been noted since introduction of the Clean Air Act in 1965.

The report concludes that action to reduce air pollution in Sydney will require:

Reduction of lead and certain other additives in petrol.

Better car emission control devices.

Encouraging wider use of smaller cars.

A limit to growth in the south-west basin of Sydney.

Increased use of public transport and less reliance on car commuting.

More efficient control and monitoring of emissions from industry.

Air Pollution Limit Proposed

Sydney THE SYDNEY MORNING HERALD in English 2 Nov 79 p 10

[Text]

CANBERRA. — The National Health and Medical Research Council has proposed the setting of a goal for reducing pollution in the air over Australia's cities.

It has recommended that there should not be more than 0.12 parts of ozone for every million parts of air.

This level should not be exceeded on more than one day a year.

A spokesman for the council said yesterday that the ozone level in Sydney's atmosphere surpassed the 0.12 level on about 40 days a year and reached 0.38 parts in a million in 1977.

The spokesman said it was the first time any specific upper limit for ozone in the atmosphere had been proposed in Australia.

"Until now the only figure we have had to work by is the World Health Organisation level of 0.06 parts of ozone for every million of air," he said.

The WHO figure, set in 1972, was "unrealistic" because it was well below any level which could be reached and was possibly even below the "natural" level of pollution caused by vegetation giving off hydrocarbons.

Ozone is one of a number of pollutants which make up photochemical smog, produced when sunlight is exposed to hydrocarbons and oxides of nitrogen.

About half the hydrocarbons in the atmosphere are given off by car engines. Much of the rest comes from two-stroke motor cycles and lawn mowers, paints, adhesives and factories, and even from fumes released when motorists fill their tanks with petrol.

The council has also recommended that warnings should be given on days when the ozone level rises above about 0.25 parts in a million because the pollution irritates the eyes and lungs, causes chest pains, coughs, sore throats and head aches, and aggravates respiratory illnesses.

AUSTRALIA

BRIEFS

SAND-MINING LEASES--The Minister for Mineral Resources and Development, Mr Mulock, announced yesterday that sand-mining leases in some North Coast national parks and proposed parks would be cancelled. Conservationists welcomed the announcement, but said it showed that Mr Mulock had retreated from his pro-beach mining stance under Cabinet pressure. A spokesman for Mr Mulock said later the areas could not be delineated at this stage because others were still being examined. Mr Chris Pratten, an Orange grazier and retiring chairman of the Nature Conservation Council of NSW, rejected yesterday Mr Mulock's criticism of "radical conservationists." Mr Pratten said the environmental movement had applauded the State Government's announced policy in 1977 to protect national parks from sand mining. He had written to the Premier, Mr Wran, asking him to confirm this policy because Mr Mulock had caused confusion by his statements in support of mining. [Excerpts] [Sydney THE SYDNEY MORNING HERALD in English 30 Oct 79 p 3]

COASTAL CONSERVATION SUPPORTED--The Australian Conservation Foundation wants the Federal Government to research coastal management problems. The foundation said a survey was urgently needed of Australian coasts threatened by industrial, commercial, and private development. "This applies particularly to beach, dune and wetland systems, all of which are vulnerable when subject to man's interference," the foundation said. The Government should set up a coastal zone research council "to initiate, supervise and be responsible for research into coastal management problems directly through Commonwealth funding to State, university, and other appropriate organisations." The foundation urged the Commonwealth to continue controlling the Great Barrier Reef region. It said there was a tendency in Australia to create small boat harbors which contributed to coastal erosion. [Excerpts] [Melbourne THE AGE in English 26 Oct 79 p 13]

GREAT BARRIER REEF PARK--The first stage of the Great Barrier Reef Marine Park has been proclaimed by the Governor-General, Sir Zelman Cowen, on advice from the Federal Government. The Prime Minister, Mr Fraser, said yesterday that a meeting of the controlling ministerial council earlier this month had decided, as a matter of urgency, to declare the Capricornia section of the park. He reaffirmed the Government's moratorium on oil drilling on the reef, including the existing exploration permits which will not be renewed until the results of scientific research are available. [Excerpts] [Canberra THE AUSTRALIAN in English 22 Oct 79 p 3] CSO: 5000

BRIEFS

AIR POLLUTION--Tokyo Dec 21 KYODO--Nitrogen oxides (nox), an air pollutant blamed for respiratory ailments, remained unchecked in fiscal 1978, increasing especially in big cities. A national survey on air pollution conducted by the environment agency whose findings were reported Friday examined the levels of eight air pollutants, including nitrogen dioxide, sulfuric dioxide and floating particles, at 1,457 constant monitoring stations throughout the country. The survey showed that a steady improvement was made in containing sulfuric dioxide in fiscal 1978, and limits were met at 93.8 per cent of the checkpoints, up 0.8 per cent over the previous year. The number of cities which failed to meet the standards decreased to 62 among the 560 covered by the survey, the report said. Tokyo, Osaka and Kawasaki were among cities with too much sulfuric dioxide in the air. However, nox pollution rose 20 to 30 per cent in Tokyo, Osaka, Chiba, Kanagawa and many other prefectures from the preceding year, the survey noted. The achievement of the environmental control requirement on the substance as a whole fell by 3 per cent from the year before, it said. The number of monitoring stations which did not meet the daily average limit of 0.04 parts per million (ppm) more than doubled to 75. The air of Tokyo was the most contaminated by nitrogen oxides, registering a daily average of 0.104 ppm. Yokohama and Kawasaki came next, both with nox average of 0.084 ppm. Readings shot up by 32 per cent to 0.078 ppm in Chiba and Ichikawa cities, both in Chiba Prefecture. The environment agency estimated one-fourth of the entire population, about 30 million persons, were exposed to such high-density nox pollution. The agency did not explain what caused the worsened situation. The report said, the number of health alerts against photochemical smog continued to decline. Eighty four such warnings were issued in 16 prefectures, it said. [Text] [Tokyo KYODO time not given 21 Dec 79 OW]

CSO: 5000

ENVIRONMENTAL SOCIETY HOLDS SYMPOSIUM IN WUXI

Beijing GUANGMING RIBAO in Chinese 4 Dec 79 p 2

[Article by Feng Zidao [7458 1311 6670] and Pang Youzhong [1690 0147 0022]:
"A Symposium on Environment and Life Held in Wuxi; The Relationship Between
Life Elements and Health Discussed"]

[Text] A symposium on environment and life was held recently in Wuxi, Jiangsu under the auspices of the China Environmental Science Society. The discussion was centered around the relationship between life elements and health.

Research on the relationship between life elements and health is a new field of study formed from generalization of and intersection between environmental science and life science during the process of their development. It is one of the indispensable links in the study of environmental science. Its main task is to study the effects of various substances in the environment on living (including human) bodies and to chart the course for altering their effects or preventing them from harming the living thing. Thereupon, an environment which is better suited to human activities and conducive to human health and longevity may be created.

The content of the symposium was very broad. It concerned itself with such topics as environmental pollution and health, the environment and regional diseases, the environment and tumors, the environment and longevity, life elements and the origin and evolution of life, the evolution of environmental substances, and the various methods of study. Through report and discussion session, the attendees were able to express their opinions freely, unfolding lively exchange of ideas, mutual enlightenment, and expanding thought. The symposium was very lively and stimulating.

The symposium concluded that, as a result of a concerted effort by the workers in the fields of medicine, geology, biology and chemistry, unfolding joint multidisciplinary research work on the regional diseases, tumors and other diseases caused by the environmental pollution, especially keshanbing [0344 1472 4016], eburnation, cancer of the liver, cancer to the esophagus and problems related to methyl mercury and health, much has been accomplished

in both macroscopic and microscopic aspects of the work and many wonderful results have been achieved. A great deal of experience has also been accumulated for the research work on the relationship between life elements and health. Some theories related to this subject were also introduced. The law of periodicity in life element geochemistry aroused a great deal of interest among the attendees and enthusiastic discussion ensued

In recent years, the research work on the relationship between life elements and health has caught widespread attention abroad. Our country, having a large surface area and diversified natural environmental conditions, offers advantageous conditions for the development of this new field of study. Based on the characteristics of this country and with reference to the research work done abroad, the delegates presented ideas and preliminary proposals to further strengthen the leadership and the multidisciplinary cooperation in order to raise the standard of the research work concerning the relationship between life elements and health. All were in agreement that unfolding research work on the relationship between life elements and health at this time will provide valuable scientific data for the evaluation of environmental quality and for the establishment of environmental standards. At the same time, it has a great significance toward execution of the environment protection laws and prevention of environmental pollution and biospherical destruction.

The deputy secretary of the China Environmental Science Society Guo Fang [6753 2455] attended the symposium.

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CSO: 5000

ARGENTINA

GOVERNMENT SHOULD EXPEDITE RESEARCH FOR POTABLE WATER

Buenos Aires LA NACION in Spanish 3 Dec 79 p 10

[Editorial: "Drinking Water"]

[Text] The search for technical solutions to a problem that affects two-thirds of our territory and two million residents of small towns has led the National Institute of Industrial Technology (INTI) to create the CIDA [Water Desalinization Research Center]. The initial collaboration of the National Commission of Geohelio-physical Studies and the subsequent incorporation of the Naval Research and Development Service have led to the implementation of tested desalinization techniques with an eye to their subsequent transfer to local industry.

If we consider that two-thirds of Argentina consists of arid and semi-arid land (with a stunning annual desertification over vast areas) and that 31 percent of its surface has a poor yearly rainfall of less than 200 millimeters (52 percent at 500 millimeters; 69 percent at 700, and only 9 percent above 1,000 millimeters a year), we can see why the drinking water experiments are of interest. Specifically, the INTI has reported that reverse osmosis equipment now being tested yields 30 cubic meters of drinking water after the flourine and arsenic contained in brackish water are eliminated. The study is obviously is attempt to alleviate the critical drinking water shortage in many areas of the country, where the residents are forced to ingest a brackish liquid that is unfit for consumption.

The equipment designed and tested by Argentine technicians at the laboratories of the Migueletes Technological Park consists of a physical-chemical pre-treatment area, a pumping system and modules, which are independent and can thus be easily handled, transported and adapted. The phenomenon of reverse osmosis, which characterizes and identifies the process in question, enables two liquids with a different concentration of salts in solution to separate through a semipermeable tubular membrane that has achieved a salt filtration ratio of 98 percent. In view of the system's satisfactory performance,

we can anticipate that the new technique will be brought to various points throughout the country, where it will begin to perform its beneficial function of purification. The report that has already been sent to the Economy Ministry, detailing the features of the program and its specific applications, should foster the implementation of this and other significant experiments that have often been delayed by a lack of official stimulus.

Following up on the imaginative national techniques designed to alleviate various worrisome problems will foster the silent and ongoing research work that has been undertaken in this case by the INTI. Tested techniques are of little good unless they are applied with the same interest with which they were researched.

8743

CSO: 5000

ARGENTINA

EROSION OF PLATE BASIN LINKED TO POOR AGRICULTURAL METHODS

Buenos Aires LA PRENSA in Spanish 28 Nov 79 p 8

[Text] If mankind is learning anything, albeit by fits and starts and at times tragically, it is that its resources are not inexhaustable and that the planet which it inhabits is in no way indestructible.

We now know with certainty that any human activity connected with the environment is capable of altering to a greater or lesser extent what has come to be called the "ecological balance" and that we must carefully evaluate such alterations before they cause greater damage.

Some of these alterations are readily perceptible, and corrective action is not long in coming. Others are more insidious, and due to lack of knowledge or nonchalance, the reaction comes when it is already too late.

The erosion of soils is one of them, and the accelerated worsening of this problem in the River Plate Basin has led the National Academy of Agronomy and Veterinary Medicine and the National Institute of Agricultural and Livestock Technology (INTA) to organize a symposium on this topic, to which they invited representatives from the other countries that are involved.

In order to learn the details of the problem in question, as well as possible solutions, we spoke with agronomists Walter F. Kugler and Antonio J. Prego, the president and executive secretary, respectively, of the above meeting.

Unprotected Land

Kugler pointed out that soil erosion in the Plate Basin is advancing rapidly because of the accelerated incorporation of lands into farm use, lands that are highly susceptible to erosion due to their physical characteristics.

"The indiscriminate felling of forests or their destruction by plowing under the natural plant layer leaves the land unprotected, enabling rains to carry off their surface layer and quickly impair their production capacity," he said.

To illustrate his statement, Kugler pointed out that in the case of softly-packed terrain, even with a slight gradient a very heavy rain can wash away some 100 tons of sediment per hectare.

"The desire to produce is understandable," Prego noted. "But we must bear in mind that each piece of land has a specific aptitude and production capacity, which demands a rational and balanced approach."

He added that lands have been adapted for farm use in the same way for 100 years, which is "disastrous, particularly because we are perfectly well-aware of the techniques to prevent or control erosion, and we have been doing sediment studies at measuring stations for at least the last 40 years," Kugler said.

Damages

The damages caused by soil erosion, our two interviewees told us, are not just limited to a rapid drop in the production capacity of the lands as a result of the wearing away of the fertile surface layer.

They mentioned the damage caused to hydroelectric energy sources as being particularly severe, because when the sediments carried away by the rivers are deposited, they clog dams and dikes, which shortens their useful life.

In this regard, Prego pointed out that only in the case of the Las Carretas Diike, in the province of San Luis, was a prior study done on soil erosion, conducted by the INTA.

They also noted that in some cases the sediment carried off by rivers is so voluminous that certain reservoirs cannot be built because their useful life would be extremely short, not long enough to pay them off.

They also mentioned the costly and constant dredging that a number of rivers require to keep them navigable. "In the well-known case of the River Plate," Kugler noted, "we have verified that 80 percent of the sediments hampering its navigability come from the Bermejo River."

They also commented on the rapid run-off that occurs in lands that have been stripped of their natural protection, which translates into flash floods and avalanches of water, which were previously unknown.

"The natural layer of vegetation," they added, "caused the water to run off much more slowly, which enabled it to be absorbed by the soil and to enrich underground water sources."

"Now, the flows are decreasing; underground reserves of fresh water are rapidly declining, and the quality of drinking water is also falling."

Solutions

Kugler emphasized that soil erosion is a "problem for everyone." In view of its dimensions it goes beyond the sphere of specialized ministries and should be the concern of the top level of government.

Just as a multidisciplinary approach to avoid professional over-specialization is required, the specific tasks that must be undertaken demand the participation of all the sectors involved.

In this connection he proposed systematic educational efforts aimed both at the community and at growers, as well as appropriate legislation on soil conservation.

He felt that soil conservation districts should be organized and grower consortiums formed to preserve and enhance the soil's usable capacity. He noted in this regard that in the Pergamino region, in the basin of the Arrecifes River, half of the lands have seen their production capacity cut by 30 to 40 percent.

"All of these problems," he said in conclusion, "will be analyzed at the symposium organized by the INTA and the National Academy of Agronomy and Veterinary Medicine, which is particularly timely inasmuch as the conference of Plate Basin foreign ministers will be held here the following week."

He also stressed that an FAO meeting would be held next year on soil conservation, which, he said, would enable international organizations to show a greater willingness to grant technical and financial aid to resolve these problems.

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CSO: 5000

ARGENTINA

REPORT OF DENUNCIATIONS TO BE PRESENTED AT ECOLOGICAL MEET

Buenos Aires CONVICCION in Spanish 20 Nov 79 p 8

[Text] If, in addition to its others, the current age is assigned a name in the future, it could be the Era of Ecology. Much bigger than the industrial, atomic, electronic or outer space revolutions, the ecological revolution will be the hallmark of this period, representing the turning point when man, the supposed owner of a world of infinite resources, assumed his position as the indebted administrator of a limited and vulnerable planet.

In Argentina, this inner revolution is moving forward quickly and tangibly, from the ban now in force on the burning of garbage in the federal capital to the relocating of industries outside of Greater Buenos Aires, which is still being fought; from the first description of the Campaign into the Impenetrable Region as an "ecological mistake" (Professor Jose Santos Golan, national science prize winner, at Salta on the 15th of this month) to the official statement on the need to treat effluents at Aluar before the toxins damage a critical zone for marine reproduction (Federico Camba, secretary of transportation and public works, Sessions on the Environment and Education, Buenos Aires, Argentine Model School).

It was in this connection, and in preparation for the Fifth International Clean Air Congress, to be held in Buenos Aires in October 1980, that the Seminar for Journalists on Environmental Pollution was recently held. It was organized by the National Academy of Medicine and the Argentine Association Against Air Pollution and was held, under the leadership of Juan M. Martinez Prieto (engineer), at the General San Martin Cultural Center.

Serious Denunciation

One of the many technical reports presented at the seminar gave a specific example of the current troublesome situation in the Buenos Aires urban area and contained an extremely serious denunciation, along with an express appeal for cooperation from newsmen in order

to create an awareness regarding this kind of situation. The study in question was entitled "Legislation on Environmental Contamination" and was presented by Dr Guillermo J. Cano, the president of the Inter-American Commission on Environmental Law and Administration.

"I unfortunately live by the ill-famed Pinazo River between Pilar and Del Viso," Cano stated. "The university of Lujan has found that the underground waters there, which are a source of drinking water for the population, are dangerously polluted by the effluents from the tanning and other industries in the area. The zone's infant mortality from intestinal diseases is considerably higher than normal averages. When authorities have tried to force those in charge to take steps to clean up the drinking water contamination, they have counterattacked by calling in union leaders and telling them that the industries cannot afford to take these steps and that if the authorities persisted, they would be forced to close down, thus cutting off job sources. The children of these same workers who are threatened with layoffs are the ones that swell the infant mortality statistics because they reside in the areas surrounding the underground pollution. Labor leaders are thus caught between these two choices: either lose their children or lose their jobs. Since they believe the former less than the latter, because they are not well-enough informed, they choose to fight the second option."

Who Can Defend Us?

Plunging into his specialty, Dr Cano then advocated a wide range of legislative measures. One of them is the coordination of measures among jurisdictions, good examples of which are the ecological belt of the metropolitan area and the pacts between the federal and provincial governments on water pollution. This approach, which has so far been the exception, should, however, achieve the status of comprehensive legislation governing national environmental policy.

He then cited France as an example of a country pursuing a policy that aims, instead of at hunting down and penalizing, at rectifying problems by persuasion in the form of tax impositions or exemptions depending on the positive or negative attitude of industrial polluters. This policy should be complemented by a system of civil liability whereby a person engaged in a harmful activity is individually and monetarily liable for the damage, regardless of his guilt and the need to demonstrate it in court.

Another of Dr Cano's proposals was to permit any citizen to file suit in court in the case of damage to the environment, which is the patrimony of the community, without having to prove that he suffered direct damage. Delving further into this idea, he proposed the need for an ombudsman (whose remote predecessor was the tribune of the people in ancient Rome), an official representing the interests of

the people. "When the OSN [expansion unknown] builds a sewer system but does not equip the terminal with a treatment plant," Cano pointed out, "it is merely transferring the pollution from one place to another, not cleaning it up. If we had an ombudsman, he could force it to do that."

Looking For A Way Out

In the search for a specific solution to the problems of pollution, industrial pollution at least, Julio Cesar Duran (engineer), from the Research Center on Environmental Engineering, which is sponsored by the National Institute of Industrial Technology and the Engineering Department of Buenos Aires University, stated that industry, which "in the years to come must make major efforts to reduce the contamination caused by its liquid and gaseous effluents," must have the proper technical assistance: "highly specialized professionals who are knowledgeable about the industrial processes that generate pollution and about the engineering techniques to clean it up; laboratory infrastructure and field equipment to measure levels of contamination quickly and reliably, and funds for pilot testing programs."

In describing the activities of the center to which he belongs and which in 1977 started up an industrial wastes treatment program, he explained that "in programming our studies, we started from the principle that the effluents, both liquid and gaseous, must be examined together with the industrial process that generates them, because an economic solution could entail modifications in processes to reduce the amount of effluents and to recover or recycle valuable products."

This facet, which has been developed to the maximum in Japan, where pollution is a life or death matter, is a key point to be worked out in light of the scheduled and unavoidable relocation of industries, which will affect 35,000 plants in the greater urban area. Whereas mainly complaints are being heard from that area regarding the cost of moving or the losses entailed in the new regulations, the struggle against pollution in the developed countries has mainly been a source of new industries.

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CSO: 5000

ARGENTINA

OFFICIALS INFORM ON WATER, SEWAGE FACILITIES SHORTAGES

Buenos Aires LA PRENSA in Spanish 22 Nov 79 p 16

[Text] The meeting called by the mayor, retired Lt Col Pablo A. Rosales, was held in the Bartolome Mitre Room of the Lomas de Zamora municipal building. Information was furnished at the meeting concerning the current problems in connection with running water and sewer outlets, which, as the mayor said on this occasion, "are a reality that people must become aware of to their full extent so that the continual complaints by residents meet with a proper response."

After this, Ruben Lucangioli, an engineer, began his address by stating that more than 25 percent of Lomas de Zamora, which covers 8,900 hectares, is located below the elevations of periodic flooding, and this percentage of unsuitable land is higher in the zone next to the Las Perdices River.

The population of the district (currently 550,000, with an estimated 800,000 by the year 2000) grew at varying rates that were below the average yearly growth rate for the metropolitan area until 1947. From that point on it climbed steeply, especially during the period between the censuses, 1947 to 1960, when the annual growth rate was 57.5 percent. Over the last three decades the relative demographic increase has been far above the regional average, which is still the case at present, although it is less pronounced, inasmuch as the growth rate dropped to 40 percent from 1960 to 1970.

He added that people were attracted in particular to the Ingeniero Budge and Fiorito centers, which are located in an area subject to floods and the object of urban speculation; this led to an availability of lands that were priced within the range of low-income earners. Here, in addition to the unsanitary characteristics of the terrain, the lots lack the minimum necessary infrastructure, such as water, electricity, sewers, drains, paved roads, as well as services like shops, schools and medical care. This has given rise to two regions in the municipality that are socially and residentially distinct: the central zone, which surrounds the highway and railway

routes, has public services and has maintained a stable population density over the past decade; and the peripheral zone, which is subject to flooding, lacks services and has felt the heaviest migratory impact between the censuses.

The land use law is being enforced in a bid to correct indiscriminate settling in unsuitable zones and to limit densities in others in which insufficient infrastructure would make it risky to have growth that outstripped services, such as the water supply and sewers.

Sewer Outlets

According to Lucangioli's speech, the zone that has sewer facilities represents 23.6 percent of the district's area, with a population of 208,000, but its demographic growth has brought about a major increase in the waste water dumped into the system, which suffers from serious shortcomings.

One of the most serious is located on Pasco and Almirante Brown and Antartida Argentina Avenue and Frias, where the sewer waters overflow the system's manholes onto the road and from there enter the rain water system.

The situation prompted meetings with authorities from National Sanitation Works, but the ultimate solution will come, it was contended, with the construction of a spillway duct from Pasco-Almirante Brown to the main sewer, which starts at Malabia Street. The municipalities of Lomas de Zamora and Almirante Brown proposed contributing 50 percent of the cost of constructing the project, which is put at 3 billion pesos.

Until work begins, the Lomas municipality will limit the construction of collective housing in those zones.

Water Supply

It was pointed out in this regard that 31.5 percent of the district area with urban parceling has water supply systems, which serve a population of 277,000; 110,000 have drinking water from wells, and 120,000 reside in zones with underground salinized water and have no immediate possibilities of obtaining running water. The salinization is moving gradually southwestward, causing a critical situation in the well-water zones. In addition to future contingency measures to bolster the service, it was pointed out that the ultimate, long-term solution to the shortfall (a solution, it was stressed, that goes beyond the municipal sphere because of the enormous cost of the projects) is the Lomas de Zamora pumping

station, which would be located on Ramon Falcon Street and Hipolito Yrigoyen Avenue and fed by the underground Bernal-Lomas de Zamora River, which is in the planning stage.

In order to alleviate the problem in the northwest sector, which extends from the bank of Riachuelo, where the inhabitants of Ingeniero Budge, Fiorito, part of Lomas de Zamora and Banfield (the most troublesome area) reside, the municipality laid the piping for water supplies via public outlets. Many of the faucets were stolen, however, and unauthorized household hookups make the supply totally inadequate. Moreover, these hookups were done haphazardly, which causes leaks.

Water distribution vehicles are also being used to alleviate the shortage of drinking water. The municipality spends about 100 million pesos a month on this service.

In addition, the Engineering Command of the Army collaborated in the drilling of wells.

In light of this situation, authorities will discourage any population settlement until the necessary infrastructure projects are completed, inasmuch as new families coming into the problem area will aggravate the difficulties.

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CSO: 5000

ARGENTINA

BRIEFS

OIL SPILL--Mendoza (NA)--Another oil spill in the irrigation ditches of the Tunuyan River has brought on serious risks of contamination over an extensive crop-growing area, and the superintendent of the general irrigation department has urgently called on Government Oil Deposits to intervene in resolving the problem. The official, Commodore Juan Mario Marino, has held the state-run enterprise responsible "for the damages that could be caused" to growers. The situation was prompted by the recent rains that carried off some oil that had spilled around the wells in the Barrancas production area in Maipu Department some 30 kilometers southeast of this capital. Irrigation personnel took samples of the polluted water and drew up a record in the presence of a notary public, while Commodore Marino sent a telegram to Government Oil Deposits in view of the seriousness of the development. [Text] [Buenos Aires LA PRENSA in Spanish 3 Dec 79 p 16] 8743

FIRM PAYS DAMAGES--Annoying Noises--A meat-packing plant in this city has just been ordered to pay a sizable sum of money to a private citizen as an indemnity for moral damages. The victim cited annoying noises, an accumulation of garbage, foul smells and vibrations in initiating the compensation suit for moral damages. Moral damages include the impairment of the personal security of the victim or of the enjoyment of his property. The ruling prompts two remarks. Despite having initiated proceedings before the municipal authority, as was proper, the plaintiff had to go to court to see his complaint vindicated. Always belated and at times costly and bothersome, reparations through legal channels always eventually come through. Bringing suit is not only an attempt to redress a grievance or end a legal nuisance; it must also be regarded as the exercise of a citizen's right to bring about the reestablishment of the normal conditions under which society ought to evolve. [Text] [Buenos Aires LA NACION in Spanish 23 Nov 79 p 8] 8743

RESOLUTION APPROVES ANTIPOLLUTION CAMPAIGN

Victoria NATION in English 1 Dec 79 pp 1, 12

[Text] The Seychelles inspired Indian Ocean anti-marine pollution campaign yesterday progressed from the talking to the resolution stage.

The Seventh Annual Council Meeting of the Port Association of Eastern Africa unanimously adopted a resolution emphasizing the need for all governments in the area to recognize the increasing volume of marine pollution in the region, whether from ships, agriculture and industrial waste or domestic sewage, and to make a concerted effort to prevent, combat and control the danger.

The resolution introduced by the Principal Secretary for Transport and Tourism, Captain James Ferrari, also called upon all those United Nations affiliate organizations that are in a position to help, to assist the governments of the region to launch the campaign on an effective scale through the necessary preparatory studies and through the provision of training and equipment.

The hazards that marine pollution pose for the health of the coastal populations, fishery resources, marine and coastal ecosystems and the tourist industry, and the dependence of the coastal inhabitants of the area on sea resources both for their food and economic development, were also underlined.

The two international bodies most involved in helping Seychelles to prepare the campaign--the Inter-governmental Maritime Consultative Organization (IMCO) and the United Nations Environmental Program (UNEP)--presented the two major papers which officially launched the campaign.

Discussing the IMCO paper during the final stages of the PMAEA meeting yesterday afternoon, its presenter, Commander Terence Hayes, the Inter-regional Adviser to the Maritime Pollution Technical Cooperation Division of IMCO said that it dealt with the benefits which could accrue to those states participating in the campaign. He explained that the region was one of the busiest tanker routes in the world and that cooperative agreements to combat the pollution threat and to pool the limited resources available were necessary if success was to be achieved.

Commander Hayes also told the participants that IMCO was ready to give as much support as possible to both national actions and regional agreements in this sphere.

Judging from the questions asked by participants following the presentation of his paper, the IMCO representative felt that all the states of the region were quite aware of the gravity of the problem faced and were anxious to take it up seriously.

Mr Hayes expressed the hope of convening a week's meeting of government authorities to discuss the necessary countermeasures, formulate objectives and draw up agreement to set up one or two subregional centers. These would be used to stockpile equipment and the necessary sophisticated technology and as centers for trained manpower.

Since IMCO is not a financing body, the initial funding of the campaign through the United Nations would have to be done by UNEP, the Nairobi based representative of which, Mr Hassan Gulad, presented the other major paper of the campaign.

This dealt with anti-pollution programs inaugurated by the body in eight oceans and seas so far.

Mr Gulad later explained that UNEP, in cooperation with IMCO would prepare an action plan for the campaign and that the program would also provide the initial technical assistance. This would include consultants to assess the magnitude of the problem, meetings of experts and officials in the area, among other things. Naturally the program would eventually expect the countries of the region themselves to take over the financial responsibility and to implement the provisions of the action plan, he said.

CSO: 5000

PESTICIDES THREATEN PUBLIC HEALTH IN AFRICAN COUNTRIES

Lusaka TIMES OF ZAMBIA in English 22 Dec 79 p 12

[Article by Asif Khan]

[Text]

A NUMBER of people die every year in Tanzania from poisoning by pesticides. The misuse of pesticides is affecting crops, the country's wildlife, and is now a serious threat to public health.

But this situation may soon change because the Tanzanian parliament has just enacted legislation to bring the sale and use of pesticides under greater control.

And the man who helped draft the legislation — Nelson Nyaku, a Commonwealth expert from Ghana — is delighted. "We can now take to court people who fail to register pesticides and sell them illegally," he said.

The new legislation is the culmination of several years' work by Mr Nyaku and his colleagues at the East African Pesticides Control Organisation (EAPCO) which is

responsible for the control of registration, importation, manufacture, sale, distribution and use of pesticides.

The Arusha-based organisation's efforts to check the illegal sale and misuse of pesticides have so far met only limited success, says Mr Nyaku, who is on secondment from his job as a research officer in Ghana's Council for Scientific and Industrial Research, Accra.

"There are more than 15 firms in Tanzania selling pesticides," he said. "Last February, we asked them for information about the pesticides or chemicals being imported, their intended use and volume."

"Only two firms responded. We couldn't force the others. Under the new Act, they will be legally bound to provide us with this information which is vital for cutting the growing number of accidents."

Mr Nyaku, aged 40, was seconded to EAPCO in 1976 by the Commonwealth Fund for Technical Co-operation, the aid-giving department of the Commonwealth Secretariat, financed by voluntary contributions from all member states.

EAPCO previously formed part of the East African Community, with Kenya, Tanzania and Uganda as members. But the community broke up in 1977, leaving EAPCO, which had been operating under its laws, without a legal framework.

It also meant that the organisation's senior staff, analysts and technicians from Kenya and Uganda were recalled home.

However, Mr Nyaku stayed on at the Tanzanian government's request and with the agreement of the CFTC, which has more than 300 other experts working in various parts of the Commonwealth.

Affected

The misuse of pesticides is not confined to Tanzania; nearly every other African country is affected. In one Zambian town alone, an insecticide is reported to have claimed 60 lives over the past 12 months.

About 10,000 people a year are killed in the world through misuse, with children forming the largest number of victims.

So experts like Mr Nyaku see the establishment of national control agencies for the registration of pesticides as a major priority for developing nations.

But government action alone is not enough; it has to be combined with public education, they maintain.

There is an urgent need to educate farmers, who represent the largest single group of consumers, and others needing pesticides about their proper use and storage.

A major problem in the control of pesticides is the lack of qualified people, not only in Tanzania but nearly everywhere, says Mr Nyaku.

He has been training staff, but Tanzania is still far short of its needs.

A reason for the shortage is that very few universities offer courses in pesticides control. "It is also a very difficult field. Unless you are hard-working and really interested, you can't make the grade."

Chasing

But for those who do make it, the rewards are endless. "Everybody is crying out for chemical analysts. If you are qualified, you will have firms chasing after you, governments will want you and you will also be in demand by international organisations.

"In short, you are very marketable," said Mr Nyaku, who holds degrees from the University of Science and Technology, Kumasi, Ghana and Loughborough University in England.

In an effort to persuade Tanzanian students to take up the subject, he and EAPCO's chairman, Dr Christopher Tarimo plan to visit the University of Dar-es-Salaam in the near future.

But as long as the country is short of skilled manpower, it would like to keep Mr Nyaku, says Dr Tarimo, who also heads the award-winning Tropical Pesticides Research Institute at Arusha with which Mr Nyaku has been closely involved.

Disintegrate

"He has started to train analysts. In his absence there will be nobody to train them. This institute would have disintegrated but for him.

"When Nelson says he is required back home I get very worried," he said. "It would be very difficult for us to replace a man of his calibre, training and experience. His expertise has been of immense value.

"The government will be writing to the CFTC to say how important it is for him to continue here."

Mr Nyaku, a father of five children aged between three months and seven years, is happy to have made his contribution. "I have always found my work here most enjoyable and challenging.

"The problems faced by Ghana and Tanzania are similar, so my experience back home was entirely relevant, and I am very happy to be able to share my knowledge and experience with another Commonwealth country." — Commonwealth Features

SUCCESS OF AIR POLLUTION CONTROL PROJECT REPORTED

Gaborone DAILY NEWS in English 5 Nov 79 p 1

[Article by Mishingo Mpaphadzi]

[Text]

The BCL Limited Mine air pollution control project in Selebi-Phikwe is making tremendous headway. Already P4.5 million out of the estimated requirement of P9 million has been used to push work ahead.

According to BCL Limited Mine Manager, Mr Mike Young, most of the design and engineering work were complete and construction work was advanced.

He added that some plant sections have been commissioned and the overall benefits are now beginning to be realised.

The aim of the air pollution control project is intended at reducing low fume elevations, directing discharged gases to the high elevation stack and ensuring that the highest efficiencies of particle removal were first achieved.

Commenting on water pollution, Mr Young said, this may be less noticed by the public but was also seen by the company as important as air quality control.

He said the entire mine water system was now geared at retaining all or most of the water in

closed circuits such that there is no out flow to the Motloutse River and that the outflow is of acceptable quality.

Meanwhile the Selebi-Phikwe Town Council has urged the residents to be patient and more tolerant with the pollution caused by the mine fume emissions.

The Health Inspector, Mr Robert Mazila, said it was impossible to reduce air pollution at any mine settlement in the world, adding that although the health of the people was very important, closing the mine for health reasons would be economic suicide for the country.

The Regional Medical Officer, Dr T. Hasvold, on the other hand confirmed that Sulphur-dioxide contained in the fumes discharged by the smelter was a health hazard.

CLOUD-SEEDING PROJECT EXAMINED

Gaborone DAILY NEWS in English 5 Nov 79 p 2

[Article by Andrew Sesinyi: "Tickle the Clouds, Have More Rain"]

[Text]

Man cannot make rain-but man can seduce clouds to make rain

So drought-harrassed Botswana might have a breathing space if she embarked on a rainfall enhancement project probably running into something like P800 000 expenses.

To this end, Director of Meteorological Department, Mr Diphaha has suggested a three stage programme of rainfall stimulation which has still to be looked at however, and approved or disapproved by the policy makers.

Mr Diphaha's three stage package is based on the seeding process of rainfall stimulation. This is the process where existing clouds are sprayed with chemicals as a way of increasing the efficiency of the clouds.

This was Mr Diphaha's professional comment. "No one can make it rain, but rain can be enhanced — You have a cloud which is either raining or its about to rain. You want to encourage this cloud to produce more than it would naturally produce."

This might sound crazy but it is followed in several countries and working like a dream.

Israel is said to be leading the world in this field. The USA, France, Australia and a number of South American countries use

the system. These drier countries have less clouds in the atmosphere than Botswana but they have adopted the cloud seeding process of rainfall stimulation.

The cloud seeding process of rainfall enhancement is also used extensively according to Mr Diphaha in the Sahel and it has been active since 1970 in Rhodesia.

But this seeding process according to Mr Diphaha needs an efficient forecasting service — "You have to predict right conditions for seeding — prepare yourself in time for tomorrow," he said.

Although rainfall stimulation in this manner smells good it becomes quite a complex exercise. As Mr Diphaha explained it, first you identify the cloud.

"You will have to establish conditions suitable for seeding. You would have to know the temperature of the top of the cloud. You would have to know the height of the base of the cloud above ground — and you would have to know the water content of the cloud."

The seeding process deals mainly with the efficiency and inefficiency of the clouds. Mr Diphaha explained.

If the cloud produces all it has, then it is 100 per cent efficient — if it produces half or a quarter, then it is not efficient.

This is where rainfall enhancement comes in. In seeding one wants to increase the efficiency of the clouds. It may be inefficient because there are insufficient naturally occurring chemicals in the cloud to make it release its water. Hence the cloud is sprayed with chemicals as an inducement.

Mr Diphaha mentioned that different chemicals are introduced into the clouds depending on the temperatures of the clouds. There is the "cold cloud", and the "warm cloud" without ice particles.

The most common chemical used when the temperature of the top of the cloud is below zero degrees celsius, which makes it a "cold cloud," is Silver Iodide. For the "warm cloud," with temperature of the top of the cloud above zero degrees, is Sodium Chloride (Common Salt). Mr Diphaha explained.

There are three different ways of administering chemicals to the clouds as a way of enhancing rainfall according to the Director of Meteorology.

The best method according to him is the use of an aircraft.

"You can send out a plane into the clouds then introduce your chemicals directly to the clouds.

This system he says, is the best because you will introduce chemicals at the right point. Again if the cloud is moving, then the aircraft could move with it, Mr Diphaha said.

The other method is the use of a rocket. According to Mr Diphaha, a rocket could be fired into the clouds and as it enters the clouds, it opens and the chemicals are released.

The third and least powerful method he said, is the smoke system where chemicals are burnt on the ground with the hope that they will be carried to the clouds with the smoke.

The main weakness with this system is that the smoke might be diverted and move away from contact with the clouds.

"Whatever method you are using anyway, it depends on the economics," he said.

Conditions prevail for the seeding process according to Mr Diphaha. During drought periods when we have very little rain, the few clouds available could be manipulated through this process to produce more water than they naturally would.

But the best time is during the good rain season. Rainfall stimulation could be used here to make the clouds produce more than they normally would and then store the surplus water in dams and other places.

But it is not all smooth sailing with this process. There are disadvantages but Mr Diphaha feels these are outweighed by the advantages.

Rainfall enhancement could increase lightning. With chemical stimulation the cloud becomes more active and the extra activity of the cloud could lead to greater formation of lightning.

Another disadvantage could be floods he said. While advancing fear that we could end up with less rainfall, Mr Diphaha mentioned however that in some of the experiments carried out in the USA, the conclusion has been that no evidence was found that cloud seeding could reduce rainfall.

Cloud seeding itself, could cover an area of 50 000 square kilometres, but one would need seeding points. The whole of eastern Botswana according to Mr Diphaha could be covered.

It has not yet been disclosed when the project would be launched if the policy makers accepted the proposals.

DROUGHT RELIEF IN THE OFFING

Gaborone DAILY NEWS in English 13 Nov 79 p 1

[Article by David Matshediso]

[Text]

The Minister of Public Service and Information Mr Daniel Kwelagobe told Molepolole residents over the weekend that preparations to implement the 1979 drought relief programme were at an advanced stage.

He observed that people were already beginning to complain that the current drought was hitting them hard yet preparations to distribute famine relief food was taking too long.

The Minister explained that the delay was due to arrangements which are to be followed with regard to feeding methods.

Mr Kwelagobe said that the distribution of food will follow three methods of which stage one, had already been declared. The distribution of food will be done by clinics, health posts and primary schools.

Health posts will carry out the distribution to expectant mothers, lactating mothers, TB patients, and pre-school age children.

He said that according to the previous arrangements the food rations were intended for children aged five and below but due to the drought situation children of up to 10 years of age will be eligible for feeding.

Talking about developments in the village, Mr Kwelagobe said that the Molepolole Dam had been taken over by the Kweneng Rural Development Association (KRDA) last year. He said that the Association was delaying with the reticulation of the dam water because they were still awaiting Water Rights permit from the Department of Water Affairs.

He appealed to the Bakwena to be patient since the association would do its best to obtain water rights certificates and install a pipeline from the dam which would water their stock outside the dam.

Mr Kwelagobe also spoke on health matters, urging parents to form a health body called hospital committee which would be a link between local hospital and the patient. He told them a similar body had already been formed at the Princess Marina Hospital in Gaborone and has proved very effective.

He said that the body would provide services like that of parents and teachers associations which have greatly improved relations between parents and teachers in our primary schools.

BRIEFS

MMADINARE WATER SHORTAGE--Water shortage has become a great concern in Mmadinare and Bobirwa areas. Residents are drawing water from Motloutse River some 800 m. away. The headteacher of Mmadinare Primary School said children are sometimes forced to go to school without having had a bath. Pupils, he said, do not attend classes regularly because they spend most of the time in search of water. The headteacher also noted that shortage of water has frustrated development project in his school. Residents have complained that sandwells from which they have been drawing water have dried up and are now forced to buy water from tractors and donkey carts at prohibiting prices. Development projects in the two villages are said to be at a standstill. [Text] [Gaborone DAILY NEWS in English 6 Nov 79 p 3]

EFFECTS OF DROUGHT--Farmers hit by the effects of drought and foot-and-mouth disease cannot expect to get short-term loans from the Ministry of Agriculture. But their problems are being carefully studied in the government's proposals for an Arable Lands Development Programme. The Honourable Minister of Agriculture, Mr. W. Meswele, replying to a question, said his Ministry recognised that farmers outside the foot-and-mouth areas are having difficulty obtaining credit and adequate draught power for ploughing because of the drought. Mr Meswele pointed out that credit could be obtained from the National Development Bank and Commercial Banks. "While lack of security can be a problem, it should be noted that all banks will give what are called 'Character loans' to farmers who will be responsible about their payments," he said. On the Arable Lands Development Programme (ALDEP) the minister said: "We are discussing with the NDB how credit, including seasonal credit can be made available and more promptly." Mr Meswele said the Government was already giving direct assistance to farmers in the worst hit areas. "Where there are special problems, as in the north this year with both foot-and-mouth disease restrictions and drought, Government and my Ministry give direct assistance such as free seeds, a subsidy on oil diesel for borehole owners and funds for the employment of people on such useful projects as water development, destumping of lands and the construction of firebreaks," he said. The Honourable Member, Mr G.S. Mosinyi (BDP Shoshong) had asked: "Whether he (the Minister) will not find it appropriate for his Ministry

to give short term loans to some farmers in the Central District who need assistance by way of fuel, fertilisers and some related items in order to carry out their ploughing effectively since they have been hard hit by the effects of foot-and-mouth disease and the prevailing drought." [Text]
[Gaborone DAILY NEWS in English 16 Nov 79 p 2]

DROUGHT HALTS PROJECTS--Self-help projects have come to a standstill at Medie in Kweneng District because of a critical water shortage. The village dam has dried up. And only council projects are continuing using water transported from boreholes at Lentsweletau and Kwena 25 kilometres away. Last month the village school was forced to close because of the shortage of water. But it was re-opened after the council agreed to provide drums of water for cooking. The village Development Committee (VDC) has budgeted P200 this year for building a two-roomed flat for teachers. But the VDC Chairman, Mrs. S. Kgosidintsi told the committee that the project hangs in the balance unless water is available. Mrs. Kgosidintsi said that if the council were serious about providing water for the village they would have installed borehole engines in five boreholes which were drilled a long time ago. She complained that a handpump engine which broke down two months ago has still not been repaired. A spokesman for the council said they equipped a borehole at Mokgalwene 5 kilometres away but the yield was still poor. Spare parts had already been ordered for the broken handpump, he said. [Text] [Gaborone DAILY NEWS in English 16 Nov 79 p 1]

MARAPONG WATER CRISIS SOLVED--An acute water shortage which has been prevalent in Marapong in the Bokalanga area of the Central District has been solved, according to chairman of the local water committee, Mr A.S.T. Malikongwa. In an interview he mentioned that the seriousness of that water shortage was threatening the functions of the local primary School and clinic. The critical water shortage crisis was solved by the sinking of a borehole in the village. The 165-feet borehole was drilled on self-help efforts. The community in the area contributed P2 2000, married couples contributed P20 while unmarried people paid P10 to the borehole project. The water crisis in the village was also aggravated by a breakdown of the old borehole and drying up of the local dam due to the long dry season. Mr Malikongwa hoped that now that the residents had drilled their own borehole, the Council would undertake reticulation work in the village to take water among other places, the school and clinic. He also noted that development projects in the village could only go according to schedule if water is within easy reach. [Text]
[Gaborone DAILY NEWS in English 29 Nov 79 p 3]

CSO: 5000

BRIEFS

FLOODGATE OPEN AT KARIBA--A second floodgate at Kariba will be opened on Tuesday, in readiness for a large inflow of water from the upper catchment of the lake. The gate will be half opened at 10 a.m. and fully opened at 3 p.m. The Central African Power Corporation says the rivers are flowing as high as anything recorded near the Angolan border and higher than anything recorded in the Barotse plains of Zambia. The main body of this water was expected to flow into Lake Kariba in about 2 weeks. It was CAPCO policy to give ample warning of the opening of a floodgate, the spokesman said. The countries involved in the Kariba project were alerted, as were the Cabora Bassa authorities in Lisbon. In most rainy seasons one or two gates spilling were enough to control the lake level. All six gates in the massive dam were opened for the first time in 1965 in a special exercise to control the heavy scouring action of the plunging water. The exercise was repeated in 1966. [Text] [Salisbury THE HERALD in English 3 Jan 80 p 2]

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FLOODS CAUSE SHORTAGES IN SOUTHERN PROVINCE

Lusaka TIMES OF ZAMBIA in English 18 Dec 79 p 1

[Text] A fuel crisis is imminent in Southern Province while shortage of essential commodities has worsened because of a traffic jam at Kaleya deviation caused by floods.

Provincial political secretary, Mr Axon Soko, confirmed in Livingstone yesterday that the situation was serious and that roads department workers were working round the clock in a bid to normalise the traffic flow.

It was discovered that 40 to 50 light and heavy duty vehicles, including trucks carrying essential commodities, fuel tankers and lorries were stuck in the mud at a bridge in the sugar estates area.

If no emergency measures are taken, the already impassable road will remain closed for a number of weeks, or months should the rains continue at the present rate.

Mr Soko said: "We have had a lot of difficulties at Kaleya over the past few days and we are experiencing a shortage of commodities because trucks carrying goods can't go beyond Kaleya from the north."

Mr Soko made the remarks after receiving a cheque worth K2,555 from the managing director of Tutwa Distributors, Mr Charles Chinyomoka Chikuni, as contribution towards the reconstruction fund for rebuilding bridges damaged by rebel Rhodesian commandos.

Thanking Mr Chikuni, he said reconstructing the bridges would be hastened and the earlier it was done the better for Zambia's economic recovery.

Nakambala Sugar Estates provided a bulldozer and tractors to reinforce the roads department machinery engaged in rescuing the vehicles.

Zana reports that Western Province member of the Central Committee, Mr Felix Luputa, has appealed to the people in the area to contribute more to the reconstruction fund.

Mr Luputa made the appeal in Mongu yesterday when he received K6,500 from two businessmen, Mr Willie Harrington of Senanga and Mr Jourbert Sithole of Mongu towards the fund.

In Kabwe, Central Province political secretary Mr Samson Mukando, yesterday paid tribute to businessmen and individuals who have so far contributed money.

Mr Mukando called on farmers to come forward and assist in rebuilding the damaged bridges by rendering material support or money.

He made the call yesterday after he received two cheques worth K2,100 from the province's permanent secretary, Mr Denny Sibajene.

CSO: 5000

DERAILMENT SPILLS OIL INTO KAFUBU RIVER

Lusaka TIMES OF ZAMBIA in English 15 Dec 79 p 2

[Text] **THOUSANDS of tonnes of oil destined for the mining industry spilled into the Kafubu river after the derailment of Zambia Railways tankers last week.**

And yesterday a South African railways engine derailed when it was hit by a goods train near Bwana Mkubwa, a railway spokesman confirmed yesterday.

The spokesman refused to say how much oil was wasted because a Press statement was being "worked out" by senior railways officials who travelled from Kabwe.

Confirming the derailment of the South African engine, the spokesman said the engine fell over after it was hit by a goods train in what he said was a "side collision".

He said: "What happened was that the South African engine was parked too close to a point where two lines meet and when the goods train was crossing it hit the locomotive's side and it overturned."

Classes of the engine were shattered and part of the front was submerged in the wet soil on the side of the line.

Railways sources said the oil spilled from six of the ten

tankers carrying the commodity to the Copperbelt and flowed into the river.

The river supplies water to some parts of Ndola and fearing contamination council workers worked round the clock from Wednesday to try and pump out the oil slick.

An official at the Kafubu bridge where the operation was taking place said: "We do not know whether some companies could use some of this oil but our major concern is to avoid contamination of the water," he said.

Mining Contractors Company gave the council a large vacuum tank to suck the oil.

And hundreds of railway passengers were stranded in the Southern Province following a derailment of a Zambia Railways goods train near Chishezi last Monday.

The accident happened when the north-bound train jumped the rails spilling hundreds of bags of maize destined for a neighbouring country.

Yesterday senior railway engineers from Kabwe, supervised work at the scene

after recovery equipment had been transported there.

Railway officials could not reveal the cause of the accident. The three-man crew escaped unhurt.

Nearly 200 metres of the line was extensively damaged, with mangled railway metal and wagons lying about. One railway worker described the accident "as the worst in Southern Province for some years."

The previous one occurred between Kalomo and Zimba about five years ago when one of the trains caught fire.

Contacts

Late last night all efforts to contact the general manager, Mr Anderson Mazoka failed.

There was no immediate comment from the police, but one police officer found at the scene of the accident said he had been instructed not to talk to the Press.

Meanwhile, several trucks loaded with essential commodities destined for the Southern Province and a number of cars were stuck along the Kaleya deviation between Mazabuka and Monze and many travellers spent the night in their cars on Tuesday night.

KIRILLIN REMARKS ON SOVIET ENVIRONMENTAL EFFORTS CITED

LD051453 [Editorial Report LD] Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian on 27 November 1979 publishes on page 3, under the headline "Living in Accord With Nature," a 1,500-word report by V. Fedinin and S. Tsukanov on the recent Geneva conference on the protection of the natural environment, with the high-level participation of 33 European countries, the United States and Canada, and various international organizations. The report stresses the importance of the conference in the context of cooperation among nations and notes its contribution to general detente. The report goes on to say that a convention was signed on cooperation in action against atmospheric pollution and in connection with this for pollution-free technology, but notes the need for "real action" to follow this up.

The report includes the following passage:

"Academician V.A. Kirillin, head of the Soviet delegation, speaking both at the forum and in front of journalists accredited to the Geneva conference, cited many striking examples showing what measures are being taken in our country to preserve clean air and water, preserve natural wealth and improve man's environment.

"In the last 7 years alone 50 state enactments connected with environmental protection have appeared in the USSR. The fact that more than R11 million has been allocated for this purpose in the 10th 5-Year Plan testifies to the scale of the work in progress. There have been achievements in this sphere in other socialist countries too. Fifteen years ago environmental protection specialists were interested in Ostrava as an example of what our environment must not be. But today scientists are coming to Ostrava to convince themselves that it is possible to preserve clean air and water in an industrial center. The smokiest and dustiest installations have been equipped with modern ash traps and electrostatic filters, more purification installations have started up, and the furnaces in electric power stations have been modernized. The green belt area has been increased 14 times."

CSO: 5000

EARTHQUAKE-RESISTANT HOUSING CONSTRUCTION TESTED IN ORDZHONIKIDZE

Moscow NEDEL'YA in Russian No 45, 8-11 Nov 79 p 5

[Article by A. Kazakhanov]

[Text] An earth tremor equivalent to "9" was simulated the other day on the outskirts of the capital of Northern Osetiya during testing of a new multi-story residence by associates from the Central Scientific Research Institute of Standard and Experimental Housing Design.

Ordzhonikidze is in the central Caucasus, in an active seismic zone.

"We can no longer rely primarily on panel buildings, although they have proven their good resistance to seismic disturbances," says K. Doyev, deputy chairman of the Ordzhonikidze City Soviet of People's Deputies ispolkom. "We need new designs and building materials which will both beautify our city and make our buildings indestructible. All buildings in the new micro-rayon, whose foundations will be laid in vacant land, will be of this type. Made of lightweight concrete, with claydite in support and enclosure elements, these houses will not only be prettier and stronger than others, but they will also enable us to lower metal expenditures by 15 percent and cement expenditures by 20 percent, as well as to reduce both the labor-intensiveness and cost of construction. And the buildings themselves are each two tons 'lighter' than the usual weight of seven tons.

The Moscow Central Scientific Research Institute of Experimental Design has developed mechanisms which test buildings for rigidity and strength. The department of reinforced concrete structure strength has made a machine which produces vibration similar to that produced by a real earthquake. It was tested together with the building put up on the outskirts of Ordzhonikidze. A windowless, doorless building made using a new design and lightweight concretes was enmeshed in wire and shaken first at seven points and then at nine. A vibration motor, flywheels and other apparatus manufactured by Zaporozh'ye metallurgists was set up on the top floor. A button was pushed to start the machinery: the house was shaken harder and harder. Instruments determined that the upper floors rocked 10 cm to each side, just like in a real earthquake.

Professor G. Shapiro, institute department chief, reports that "we are now office-processing the data obtained in Ordzhonikidze, but it can already be asserted that the new buildings are safe and suitable for use in building up residential areas in seismic regions. And we are still improving the vibration machine and will test it next summer in Kishinev on a 12-story building."

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CSO: 5000

KALININSKAYA OBLAST WATER-TREATMENT FACILITIES

Moscow STROITEL'NAYA GAZETA in Russian 28 Oct 79 p 3

[Text] The USSR People's Control Committee has reviewed the question of implementing assignments on building, renovating and putting sewage system and water purification facilities into operation in cities in Kalininskaya Oblast.

A check revealed serious shortcomings. The construction of environmental protection facilities is generally last in line to be staffed and provided with machinery and materials. There are frequent delays in the preparation of specifications and in delivering technological equipment. There have been instances of willfully moving back start-up schedules, facilities are being operated poorly, and shortcomings are being eliminated slowly.

The USSR Ministry of Construction has not taken the steps necessary to increase production capacities of the Spetsstroy trust. The USSR People's Control Committee has pointed this out to L. Bibin, USSR Deputy Minister of Construction and has taken under consideration his statement that the Ministry will ensure the start-up of treatment facilities in Vyshnyy Volochek in November and fulfillment of the subcontractor plans for 1979 and 1980 at similar facilities in Kalinin, Vyshnyy Volochek (second line), Ostashkovo, Selizharovo, Staritsa and Rzhev.

Comrade Chesnokov, chief engineer of the USSR Ministry of Power and Electrification's Gidroenergokanalstroy trust, and Comrade Svintsov, chief of the Vazuzskaya Hydrotechnical System's specialized capital construction administration, have been reprimanded for failing to meet assignments on building treatment facilities in Zubtsov. Their statements that these facilities would be released for operation in November have been taken under consideration.

RSPSR Deputy Minister of Light Industry I. Mitin has been reprimanded for allowing disruption of the scheduled planning of treatment facilities for Ostashkovo and for willfully moving back the start-up schedule for that facility.

The USSR People's Control Committee has called to the attention of RSFSR Deputy Minister of Textile Industry N. Surovets the lag in developing planning-estimate documentation and in carrying out assignments on expanding existing treatment facilities in Vyshnyy Volochek. His statement as to the steps planned in this connection and the statement by V. Solov'yev, chief of the first Russian Industrial Association to Produce Cotton Output, on fines levied against supervisory workers of the Vyshnyy Volochek Cotton Combine for obtaining bonuses illegally have been taken under consideration.

The committee has instructed RSFSR First Deputy Minister of Housing and Municipal Services S. Ionov to ensure implementation of assignments on the start-up of and radical improvement in the use of treatment facilities in cities of Kalininskaya Oblast and call to account the leaders of subordinate enterprises which are permitting pollution of water-supply sources.

Consideration has been given to the fact that Comrade Itskovich, deputy chief of the oblast municipal services administration, Comrade Meyyer, chief of the oblast "Vodokanal" [water canal] administration, and Comrade D'yakov, manager of the Spetsstroy trust, have been called to account for shortcomings in the construction and operation of environmental protection facilities by the Kalininskaya Oblast People's Control Committee.

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CSO: 5000

CONFERENCE ON INDUSTRIAL, VEHICULAR AIR POLLUTION CONTROL

Leningrad VECHERNIY LENINGRAD in Russian 14 Nov 79 p 2

[Article by I. Konstantinova]

[Abstract] The article is an interview with Nikolay Nikolayevich Aleksandrov, senior science associate of the Main Geophysical Observatory imeni Voyeykov and chairman of the atmospheric air protection section of the All-Union Nature Conservation Society's Leningrad branch. The interview was given on the occasion of the opening of the second zonal conference on the decontamination of industrial emissions into the atmosphere. The conference was organized by the Nature Conservation Society, the Leningrad branch of the All-Union Chemical Society imeni Mendeleyev, the Technological Institute imeni Lensovet, and other organizations.

After stressing the importance of efforts aimed at reducing air pollution in industrial centers such as Leningrad, Alexandrov notes that about 200 enterprise heads, representatives of sanitation-and-epidemiological services, associates of research institutes and officials of a wide range of agencies are taking part in the zonal conference. The conference comprises sections on theoretical problems, control methods and the chemical and power industries. The main report at the conference will be devoted to the condition of the air over Leningrad and the oblast. The main purpose of the conference, according to Alexandrov, is to acquaint enterprise and agency heads with the latest scientific proposals, methods and developments in the field, and to provide guidance of future scientific research on air pollution control.

Aleksandrov reports that the combines membership of the Nature Conservation Society's Leningrad sections now stands at several thousand, and he comments on the role of his own section, which has about 100 members and pursues a number of activities for the enforcement of environmental-protection measures and the publicizing of recent scientific developments. Examples of the latter include a special gasoline additive said to be capable of reducing harmful emissions from motor vehicles by 30 to 40 percent; an anti-icing attachment that prevents the incomplete combustion of fuel and reduces fuel consumption and harmful emissions in the wintertime; and "SF," a gasoline additive that reduces the toxicity of exhaust gases and protects the exhaust systems of engines against the formation of deposits.

UKRAINIAN AUTO-LOVERS SOCIETY STRESSES POLLUTION AWARENESS

Kiev RABOCHAYA GAZETA in Russian 11 Oct 79 p 4

[Article by B. Ivanov, chairman of the republic "Auto Lover" society council: "But Do You Love Nature?"]

[Text] The automobile has taken over more than just the city streets. It is encroaching more and more on the suburban recreation zones and is penetrating the most remote and precious nooks of nature. And these encounters do not always end painlessly for nature. At first glance, one does not notice any appreciable damage to the forests and reservoirs, to the plant and animal worlds. A tremendous amount of laborious work is needed to protect the flora and fauna from harmful influences.

The "Auto Lover" voluntary society's charter anticipates, among other tasks, that "society members will be educated in a spirit of communist morality, of Soviet patriotism, a socialist attitude towards labor, comradeship and friendship, an attitude of conservation of nature and the environment."

The republic council is constantly attentive to these problems and coordinates its work with the Ukrainian SSR Council of Ministers State Committee for Environmental Protection; special measures encompass broad strata of the driving public. Considerable experience has also been accumulated in the oblast and rayon councils and the society's primary organizations in organizational and mass-explanatory work among the population.

Thus, for example, the Kirovogradskaya Oblast council of the society has an understanding with the directorate of the Kirovogradavtotekhnobsluzhivaniye association that specialists and instruments will be allocated to determine the amount of impurities in vehicle exhausts and to adjust fuel systems. Specialists from the Aleksandriya service station drive out to check and adjust carburetors and eliminate defects causing pollution.

In a majority of cases, the primary organizations do their work together with the environmental protection society and the oblast environmental protection inspectorate. It is noteworthy that Comrade Aulin, chairman of the

oblast inspectorate, has been elected to the oblast auto lover society council and participates actively in its activity.

Agitation-propaganda groups dealing with protecting the environment have been created in several rayon and city soviets of the society in Nikolayevskaya Oblast. Special discussions on this topic have been held in 468 primary organizations. Environmental protection as it concerns auto lovers has been developed seriously and attentively in oblast and rayon newspapers and in radio broadcasts.

The Ivano-Frankovskaya Oblast council has sent letters to all city and rayon links of the society. They call attention to the necessity of conducting broad explanatory work among private owners of motor transport and of assisting them in eliminating engine defects. Each group of students in the voluntary society's auto schools and courses must take courses orienting future drivers towards environmental conservation.

Posters calling on owners of individual means of transport to follow the rules of conduct for trips outside the city and to keep engines in good repair have been put up in garages of Sevastopol' cooperatives. More than 20,000 persons have been covered by measures undertaken by the Poltavskaya Oblast council of the auto lover society. Intelligible explanatory work is done during technical inspections and at exercises with active society members.

Attention is called to the necessity of monitoring and properly adjusting engines to reduce toxic exhaust gases at technical consultation centers in our republic. Incidentally, there are over 40 such centers in the Ukraine, and the Odesskaya, Kiyevskaya, Cherkasskaya and Nikolayevskaya oblast councils of the society also have mobile technical assistance centers.

The necessary attention is not, unfortunately, always being paid to the topical problem of combatting toxic emissions in motor transport. That is why, in fighting for primordial cleanness of the environment, we are striving for all subordinate training motor transport belonging to the society to be in exemplary operating condition at all times, for each associate to be a model of proper performance of civic duty.

Theater presentations, races and other sports measures conducted by the society also promote successful environmental protection activity. They inculcate an attitude of conservation towards the beauty of one's native earth, towards a clean environment.

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CSO: 5000

YEREVAN VEHICLE POLLUTION TESTING CENTER

Moscow PRAVDA in Russian 5 Sep 79 p 6

[Article by Yu. Arakelyan: "Without A Trail of Smoke"]

[Text] A new building has gone up on the southern outskirts of Yerevan. Buses, trucks and passenger cars enter the gates from time to time. The republic Ministry of Motor Transport's toxicity station is in operation. It is concerned with reducing harmful substances in the exhausts of carburetor-type engines.

Drivers call the station the "clinic." Vehicles come here for inspection according to a strict schedule. As is known, one of the basic sources of city air pollution is automobile exhausts. Now, drivers are obligated to bring in their vehicles for testing at specified mileage intervals in order to check if they are hazardous to the environment.

...A ZIL-130 drives into the testing unit. A gas analyzer is hooked up to the muffler. Wires connect the motor and electronic measurement devices. The ignition is switched on and the vehicle is on load. The rear wheels are driven by test-stand drums.

"The speedometer reads 80 km/hr," explains engineer M. Umrshatyan. "Pay attention to the instrument readings. The proportion of carbon monoxide in the exhaust gases cannot exceed 1.5 to two percent. Here, it is five times that. The fuel system on this vehicle is malfunctioning. Now we'll adjust it...."

A GAZ-24 is being tested on another stand. At fast idle, this new-looking vehicle is discharging exhaust gases intensively. Before making a final diagnosis, operator O. Shaginyan checks the "health" of the battery, generator and distributor. The oscillograph screen shows sharp fluctuations -- the electrical system is clearly not in proper working order. It is clear to the specialists that the spark plugs are not up to par. At high

rpm's, when the butterfly valve is open, the fuel is burned rather well, but performance changes as exhaust gases increase.

"Carbon monoxide is observed in large amounts in the exhaust gases when the vehicle is accelerated, when it operates at high rpm's and when at idle," says G. Shakhazizyan, the station chief. "When braking, the carbon monoxide level is generally several-fold higher than when traveling normally. But the stoplights stop traffic frequently on city streets, and then out-of-tune engines discharge exhaust gases which exceed the permissible norm."

Our city's terrain is complex, with a basin in the center in which air circulation is poor. Here, damage from exhaust gases is considerably greater than on level portions. Our station is also called on to check and adjust vehicles so that they pollute the air of Yerevan as little as possible....

The station has available to it a mobile laboratory which travels to the motor pools. The inspector's baton stops vehicles leaving a trail of smoke more and more often on city streets. Without a coupon certifying level of toxicity, vehicles are not entitled to enter the traffic flow.

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BRIEFS

KOKAND TREATMENT PLANT--At one time, the city treatment plant at Kokand was considered the best in Ferganskaya Oblast. It is now the worst. This sad metamorphosis occurred in 1974, when a chrome leather plant was hooked up to the treatment plant. Before discharging waste water into the city sewage system, plants must first treat the discharge at experimental plant treatment facilities. However, these facilities, costing more than half a million rubles, are in no way able to operate at full capacity. The plan followed to build them, a product of the No 2 State Planning Institute of the USSR Ministry of Light Industry, turned out to be far from perfect. Two years after start-up, planners recommended work to improve operation of the facilities, but the anticipated impact was not obtained. On top of it all, the flotation plant worker chemical protection wall collapsed. The basin inspectorate has already sent plant supervisory workers about 100 injunctions, but the situation has not changed. Directors and chief engineers have changed. Why they alone? They did not draw up the plan. Or perhaps the USSR Ministry of Light Industry thinks differently? (by L. Fateyeva, chief of the Fergana Basin Water Protection Inspectorate, and L. Neyman, senior engineer in the Uzbek SSR Ministry of Water Management). [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 45, Nov 79 p 15] 11052

UST'-ILIMSK CELLULOSE PLANT--Ust'-Ilinsk (Irkutskaya Oblast)--New equipment installed at the Ust'-Ilinsk Cellulose Plant significantly reduces the amount of industrial waste and reduces environmental pollution. Start-up and adjustment work has begun on the first line of the new wood-chemistry enterprise. Some 250,000 tons of bleached cellulose will be produced here from logs supplied from taiga felling areas. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 20 Oct 79 p 1] 11052

MINSK RADIATION CATALYZERS--Trees and flowers can live quite nicely next to chemical production towers and thermal electric power plant smokestacks, in the opinion of Moscow and Minsk scientists concerned with ridding smoke of poisonous sulfur gas. In order to clean the air of it, the gas must be oxidized and converted into sulfuric acid by dissolving it in water. The actualization of this simple principle is complicated by the fact that the gas oxidizes poorly, even with a catalyst. By using radiation, scientists

have removed nearly all the harmful impurities from smoke entering the atmosphere. Workers at the Polotsk Oil Refinery are the first in Belorussia to use the radiation-catalytic method of treating smoke. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 23 Oct 79 p 2] 11052

TASHKENT COMBUSTION MEETING--Participants in a combined meeting of sections of the scientific councils of the USSR State Committee for Science and Technology and the USSR Academy of Sciences, which ended Thursday in Tashkent, stressed in a resolution they adopted the exceptional urgency of problems associated with protecting the air from pollution by enterprises of power engineering and metallurgy. Some 300 scientists and engineers from all the union republics heard 60 reports devoted to improving combustion and protecting the environment when burning coal, oil, gas and other organic fuel. The resolution by the combined meeting outlined a concrete program of action. [Text] [Tashkent PRAVDA VOSTOKA in Russian 26 Oct 79 p 4] 11052

MONITORING POLLUTION USING NUCLEAR PHYSICS--"Nuclear Physics Methods of Analysis in Monitoring the Environment" -- that was the topic of an all-union scientific conference completed in Tashkent on 25 October. It was held by the USSR and Uzbek Academies of Sciences and the USSR State Committee for Hydrometeorology and Environment Monitoring. About 200 scientists and specialists representing research institutions and services connected with problems of the environment from many union republics and scientific centers in the country participated in the conference. The reports and communiques examined the latest methods of monitoring the environment, data on studying soils, natural and waste water, the atmosphere and precipitation, and other natural subjects. Conference participants discussed ways of developing research aimed at improving the quality and effectiveness of environmental protection work. [Text] [Tashkent PRAVDA VOSTOKA in Russian 27 Oct 79 p 2] 11052

AUTOMATIC SOLVENT MONITOR--The Moscow experimental chemical plant of the Scientific Research Technological-Chemical Institute of Personal Services has produced the first lot of devices which automatically monitor the purity of production discharges into the atmosphere. The new monitoring system prevents environmental pollution by harmful chlororganic substances used as solvents in dry-cleaning plants. [Text] [Moscow IZVESTIYA in Russian 11 Nov 79 p 1] 11052

NORTHERN KURILE TYPHOON--Long-time residents of Iturup said they could not ever remember so destructive a typhoon. It raged over the Northern Kuriles for two days. The first day, the typhoon attacked Iturup from the Pacific side of the island. Rivers overflowed their banks. Residents of Kuril'sk were alarmed. The rayon emergency headquarters organized the evacuation and locating of people from flooded areas and took other steps to ensure the safety of rayon residents. In the morning, detachments of citizens went out to repair housing and public buildings damaged by the storm. Power engineers restored transmission lines, communication workers -- telephone and radio communications. In the evening of the next day, the quieted typhoon

renewed its attacks with even greater fury. This time, it attacked Iturup from the Sea of Okhotsk. Wind speeds reached 50-70 meters per second. Kurile residents fought the calamity courageously. Due to interruptions in the electric power supply, bakeries had to return to the old methods of baking bread. Nonetheless, it reached the stores on time. The typhoon caused quite a bit of trouble for workers of the Kuril'sk Fish Breeding Plant, the largest enterprise in the world for breeding salmon. The water level in the river rose to the windows of the production structures. A layer of silt settled on the fish-egg incubation frames. Without waiting for the water to drop, hatchery workers began working to save the roe. By the morning of the third day, the typhoon had abated. In the rayon center and in island villages, classes resumed in schools and children's institutions reopened. Work is underway everywhere to eliminate the tracks of the typhoon. (by F. Khrustalev). [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 28 Oct 79 p 6] 11052

BELORUSSIAN OIL POLLUTION--The Belorussian SSR State Committee for Environmental protection reports that, based on the facts presented in "Oil on the Water" (SOVETSKAYA BELORUSSIYA, 14 Aug 79), a check was run and it was established that the Pripyat' River was polluted at the Mozyr' city limits due to the discharge of petroleum products with catch-basin water from motor combine No 2, the "Mozyr'sel'stroy" trust motor pool, and the special-service motor pool and oil-prospecting deep-drilling expedition of the "Belneftegaz-razvedka." The workers responsible at the indicated enterprises were fined for violating the Water Legislation. As concerns water-protection activity of Pkhov port in Mozyr' and the technical sector of the riverway, the collection and treatment of ballast water from ships of the river fleet and floating equipment of the Mozyr' technical sector has been organized at floating station PS-01 in execution of the Belorussian SSR State Environmental Protection Committee resolution of 24 May 1979. The taking on of ballast water is being monitored and special coupons are being issued which are necessary for a ship to be allowed to take on fuel. Implementation of the measures to protect the Pripyat' from pollution is under the supervision of the Gomel'skaya Oblast environmental protection inspectorate. (by A. Svistunov, deputy chairman of the Belorussian SSR State Environmental Protection Committee). [Text] [Minsk SOVETSKAYA BELORUSSIYA in Russian 11 Oct 79 p 4] 11052

TYAN'-SHAN EARTHQUAKE--Frunze, 8 Sep (TASS)--At 6:39 pm Moscow time on 7 Sep there was an earthquake in Kirgiziya with a force of about 5 at the epicenter in Tyan'-Shan, 75 km west of the oblast center of Naryn. There were no deaths or destruction. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 9 Sep 79 p 4] 11052

BOILER SCALE REMOVAL--Tallin--Streams of water forced under pressure into hot boilers are outstanding for cleaning. Scientists of the Tallin Polytechnical institute proposed this method of removing scale from the pipes of large steam boilers, the workhorses of thermal power engineering. The new installations are compact and very reliable. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 20 Nov 79 p 1] 11052

TASH-KUMYR EARTHQUAKE--Frunze, 15 Nov (TASS)--At 4:33 am this morning Moscow time, there was an earthquake in Kirgiziya. Its epicenter, according to data from the republic Academy of Sciences Institute of Seismology, was on the southwestern slope of the Fergana Range. The earthquake registered 4 in Tash-Kumyr, 4-5 in Kara-Kul, and 3 in Dzhahal-Abad and Andizhan. There were no deaths or destruction. [Text] [Moscow TRUD in Russian 16 Nov 79 p 4 and Moscow PRAVDA in Russian 16 Nov 79 p 3] 11052

KOLYMA BIOLOGICAL WASTE TREATMENT--A biological waste-treatment station has been put into operation at enterprises of the "Severovostokugol" association in the Kolyma River basin. This station will enable us to stop all discharges of polluted water. The largest such facility operating in the North, it can handle 3,000 cubic meters of waste water per day. The problem of rendering waste water harmless to the environment at coal enterprises of the Kolyma will be solved by putting the biological treatment station into operation. A design for a complex of such treatment facilities is also being worked out for coal mines of Chukotka. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 16 Nov 79 p 2] 11052

ARAL SEA SALT--Why is the water salty in the Aral Sea, into which the large Amudar'ya and Syrdar'ya freshwater rivers empty? Hydrogeologists of the Kazakh SSR Academy of Sciences have the answer. It turns out that the sea is being "salted" by underground rivers beginning in the northwestern spurs of Tyan'-Shan. As they pass through and under the Karakum Desert, they wash out tens of millions of tons of salt every year. Scientists at the Kazakhstan Academy of Sciences Institute of Hydrogeology and Hydrophysics have begun drawing up mathematical models of the underground tributaries of the Aral. They will help us control these deep streams to protect the environment. [Text] [Moscow KRASNAYA ZVEZDA in Russian 23 Oct 79 p 4] 11052

PRIMORYE WATER PURIFICATION--The Nagornaya coal mine has commissioned an installation for the biological and chemical purification of industrial and domestic effluents to make water waste entering the Partizanskaya River suitable for salmon. A similar installation was built recently on the Bikin River. The Luchegorsk open-cut coalmine, the largest in Primorye, is being developed near the Bikin River and the purification complex, which includes precipitation tanks, aerators, ponds with useful microelements and chlorinators, treats 5,500 cubic meters of water daily. Presently all coal mining enterprises of Primorye have been recycling their water supplies and modern purification installations have been or are being built at all mines. [Valdivostok Domestic Service in Russian 1100 GMT 23 Nov 79 OW]

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